TM 55-1267-10

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S INSTRUCTIONS
LOCOMOTIVE
DIESEL, MECHANICAL
56 1/2-IN. GAGE, 10 TON, 0-4-0
FATE-ROOT-HEATH
(PLYMOUTH) MODEL DDT

DEPARTMENT OF THE ARMY . MARCH 1957

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TECHNICAL MANUAL }
NO. 55-1267-10 }

DEPARTMENT OF THE ARMY
WASHINGTON 25, D. C., *15 March 1957*

LOCOMOTIVE, DIESEL MECHANICAL. 56 ½-IN. GAGE, 10 TON, 0-4-0, FATE-ROOT-HEATH (PLYMOUTH) MODEL DDT

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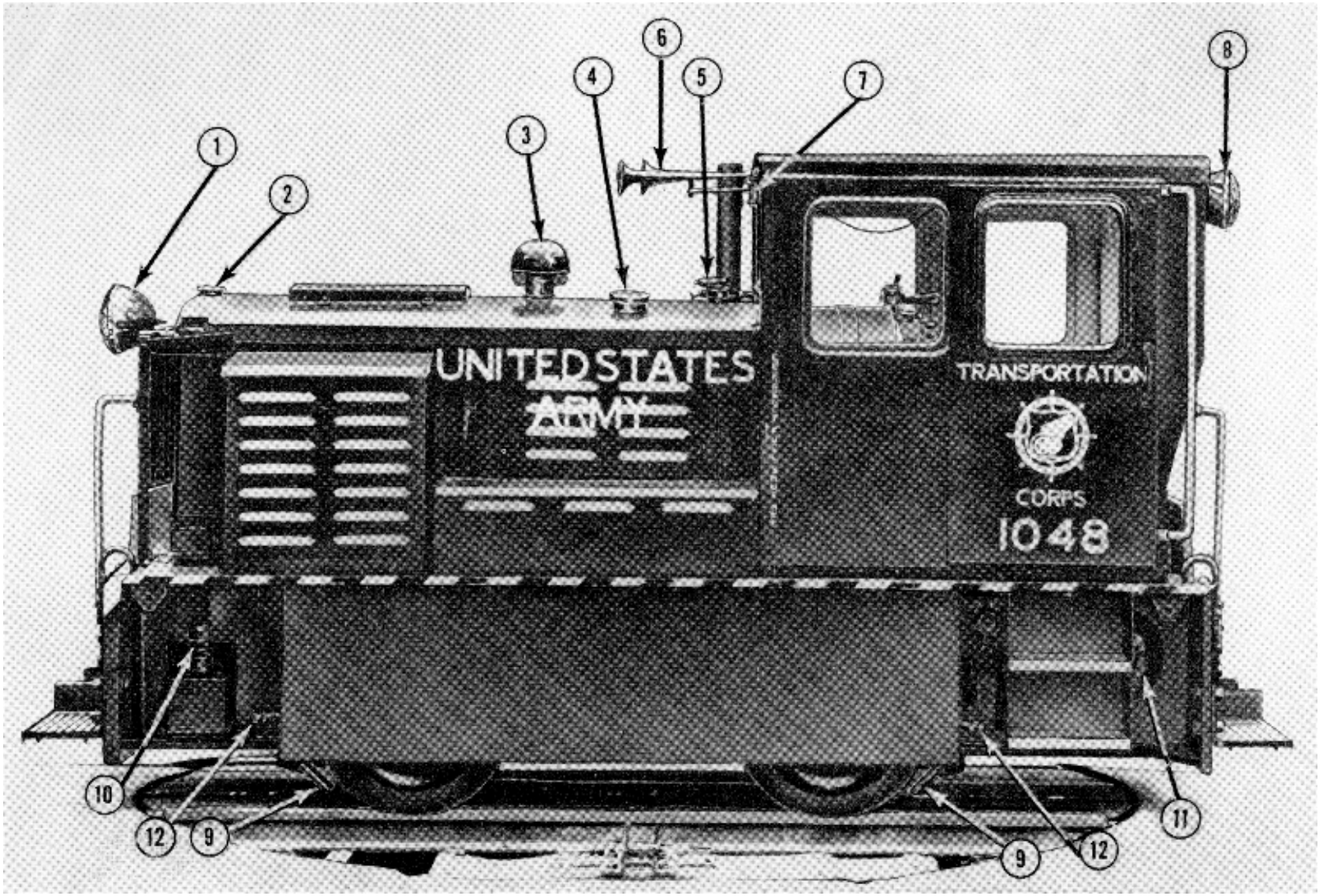


1.	Headlight	4.	Sand Filler	7.	Fuel Vent	10.	Torque Convertor Supply Tank Filler
2.	Radiator Filler	5.	Fuel Filler	8.	Rearlight	11.	Air Reservoir Drain Valve
3.	Engine Air Intake	6.	Horn	9.	Sander Pipe	12.	Flange Lubricators

Figure 1. Locomotive side view.

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1. Scope

This manual is published for the use of the personnel concerned with the operation of the Plymouth Locomotive Works 10 Ton, Diesel Mechanical Locomotive. It contains a description of major units and their functions in relation to other components of the equipment. The appendix contains a list of tools and on-board spares which are initial issue items, and will be carried on the locomotive at all times.

2. Other Publications

a. TM 5-5209 contains additional information concerning the operation of diesel equipment.

b. Maintenance allocation charts will be published in TM 55-1267-20.

3. Daily Inspection Worksheet

DD Form 862 (Daily Inspection Worksheet for Diesel-Electric Locomotives). The operator will record the deficiencies encountered during operation in "A-Operator's Report" portion of the form.

Section II. DESCRIPTION AND DATA

4. Description

a. This locomotive is powered by a single General Motors Model 3080 supercharged diesel engine, nominally rated 100 hp at 2,000 rpm. Traction power for the drive wheels is transmitted from the engine crankshaft to a four speed transmission through a torque converter. A self-alining coupling is used to connect the two units. The engine power is, in turn, conveyed from the transmission to the drive axles through roller chains, which link the sprockets that are integrally attached to the driving shaft and each drive axle.

b. The braking system is straight air with a SA-2 self-lapping brake valve. A hand brake is provided for holding the locomotive at a standstill. A two cylinder air-cooled compressor pumps air into the main reservoir.

c. All operating mechanism and controls are located in front of the operator's seat in the cab. Grouped at this station are the reversing lever, speed changing lever, converter brake pedal, deadman pedal, sander valve, bell and horn controls, window wiper control, master switch, gage panel, and light switches. All meters and gages may be readily viewed by the operator at his control station.

5. Component Data

a. Locomotive.

Manufacturer	Plymouth Locomotive Works.
Model	DDT Weight
Weight	10-Ton
Gauge	56 1/2 in.
Length	13 ft. 0 in.
Width	5 ft. 10 in.
Height	7 ft. 0 in.
Fuel Oil Capacity	32 gallons
Cooling water Capacity	8 1/2 gallons

b. Engine.

Manufacturer	General Motors
Model	3080
Cylinders	3
Bore	4¼ in.
Stroke	5 ft.
Fuel	Diesel oil
Capacity	100 hp at 2,000 rpm
Crankcase Lube Oil Capacity	10 quarts
Fuel System	Solid injection
Cooling System	Radiator
Starting System	Electric, 24 volt battery

e. Torque Converter.

Manufacturer	General Motors

Model	TC-455
Charging Pressure (min)	60 psi
Charging Pressure (max)	100 psi
Oil Pump Capacity	18.5 gpm at 1,800 engine rpm.

d. Air Compressor.

Manufacturer Company.	Quincy Compressor
Model	216
Size	3 1/2 in. x 2 1/2 in.
Oil Capacity	2 3/4 pints
Capacity	18.5 cfm at 900 rpm

e. Air Brakes.

Manufacturer Brake Company,	Westinghouse Air
Type	Straight air
Brake Valve	SA-2
Brake Cylinders	4 in. x 6 in.
Main Reservoir	12 in. x 48 in.

CHAPTER 2
OPERATING INSTRUCTIONS

Section I. PRELIMINARY INSPECTION

6. Supplies

Check supplies as follows

a. Fuel Oil. See that the fuel tank contains a supply of fuel and that the fuel shutoff valve under the tank is turned on.

b. Lubricating Oil.

(1) Be sure that both compartments of the transmission are filled to the high level with transmission oil.

(2) See that the engine and air compressor crankcases are filled to the full or high mark on the oil gauges, and the oil in the torque converter oil reservoir is up to the full mark on the oil gauge.

c. Water. Be sure the radiator is filled with clean, soft water or in cold weather with anti-freeze solution.

d. Sand. See that the sand box is filled with clean, dry sand.

7. Air System

a. Check that condensate is drained from the air reservoir.

b. Close all drain cocks on the air reservoir and airlines.

c. See that the main reservoir cut-out cock, brake cylinder cut-out cocks, and distributing valve cut-out cock are open.

8. Leaks

Check for oil and water leaks. Leaks are more probable on a warm engine under pressure, and if observed under such conditions, must be reported.

9. Miscellaneous

Check for worn or missing brake shoes or other loose or dragging parts. Inspect the engine and other machinery for rags, tools, etc., that may have been left near moving parts.

Section II. CONTROLS AND INSTRUMENTS

10. General

a. This section describes, locates, illustrates and furnishes the operator sufficient information about the various controls and instruments.
b. The controls and instruments (fig. 2) necessary for the routine operation of the locomotive are located in the cab in front of the operator. These include the throttle and speed changing lever controlling power and speed, the reverse lever controlling the direction of travel, the brake valve, indicating instruments, and various manually operated lighting and control switches. The throttle, reverse lever, speed changing lever, and the brake lever control all locomotive movement.

11. Master Control Switch

The master control switch (8) in the panel below the instruments must be closed before any power can be obtained from the batteries.

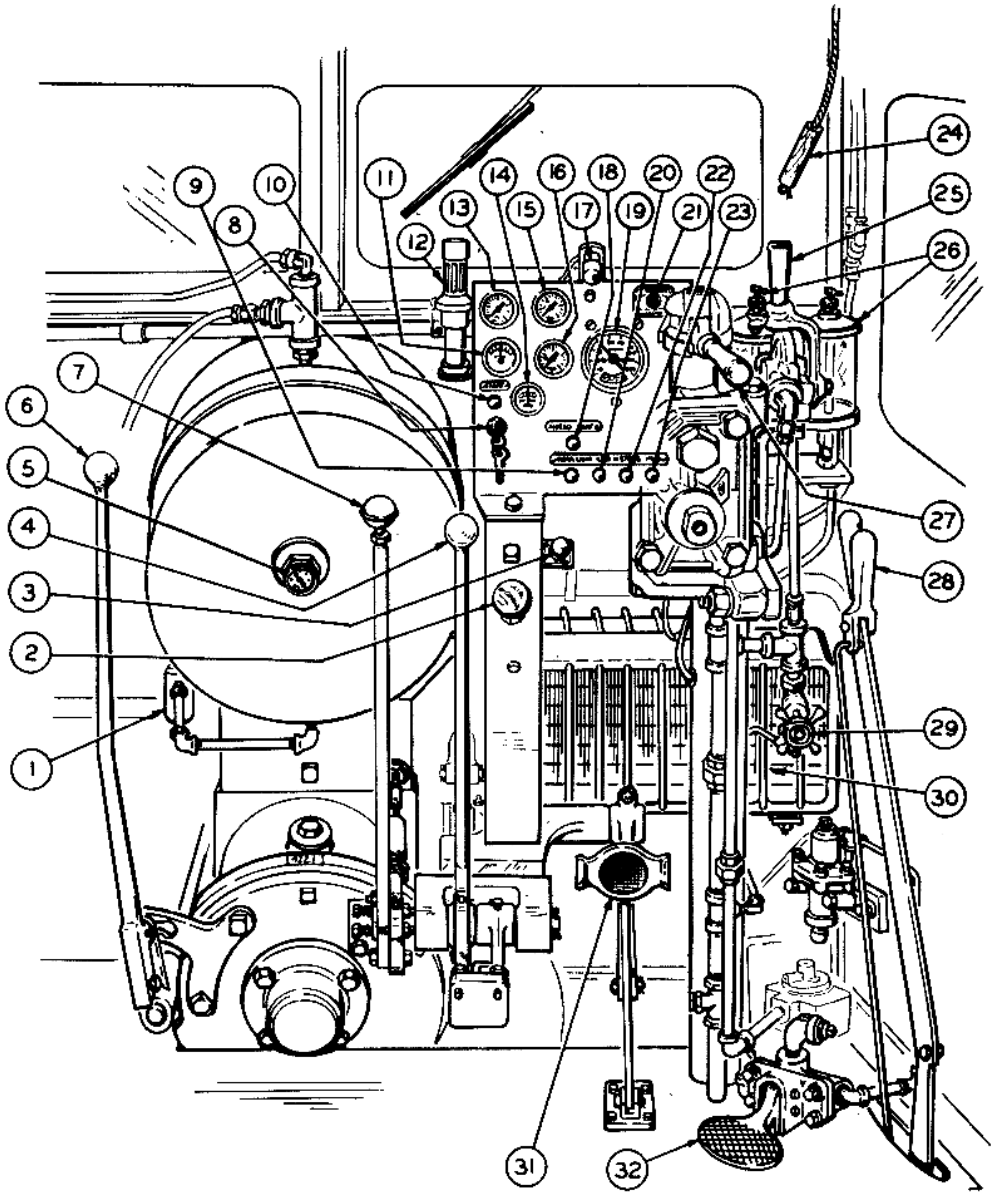
12. Reverse Lever

The reverse lever (6) at the rear left corner of the transmission has three positions. Move to the right to go forward, to the center for neutral, and to the left for reverse.

13. Speed Changing Lever

The positions of the speed changing lever (4) are noted on the rear cover of the transmission. There are four speeds, each speed having equal power in either direction. Move the lever to the left and

1. Fuel Oil Filter
2. Starting Pump
3. Emergency Engine Stop
4. Speed Changing Lever
5. Fuel Oil Gauge
6. Reverser Lever
7. Throttle Lever
8. Master Control Switch
9. Rear Light Switch
10. Engine Start Button
11. Engine Temperature Gauge
12. Starting Capsule Holder
13. Torque Converter Oil Temperature Gauge
14. Battery Ammeter
15. Torque Converter Oil Pressure Gauge
16. Engine Oil Pressure Gauge
17. Instrument Panel Light
18. Headlight Switch
19. Main Resevoir Air Pressure Gauge
20. Cab Light Switch
21. Low Air Pressure Warning Light
22. Step Light Switch
23. Cab Heater Switch
24. Horn Pull-cord
25. Sanding Valve
26. Drive Chain Lubricators.
27. Air Brake Valve
28. Emergency Hand Brake
29. Bell Ringer Valve
30. Cab Heater
31. Torque Converter Retarding Brake
32. Deadman Pedal



Figure, 2. Front view of cab controls and instruments.

forward for first, straight back for second, ahead and across over to the right and forward for third, and straight back for fourth speed.

14. **Throttle Lever**

The throttle lever (7) controls the speed of the engine. Pull back to open the throttle, forward to idle and stop the engine. When the throttle lever is pushed forward, a slot in the throttle bracket will stop the lever in the engine idle position. A slight sideways pressure on the lever will allow it to be disengaged from this slot and moved still further forward which will shut off the engine.

15. **Air Brake Valve**

a. Description. The air brake valve (27) controls the operation of the locomotive brakes. It automatically cuts off the air flow when the brake cylinder builds up to a point corresponding to the position of the brake valve handle. Service position embraces approximately a 90° are of handle movement from full Release to full Service position, and brake cylinder pressure varies directly with the degree of handle movement.

b. Service Application.

(1) When making a stop, apply the brakes by moving the valve handle to the right. The amount of brake application depends upon the distance the handle is advanced toward full Application position.

(2) The shortest and smoothest stop is accomplished by applying the brakes at the start as hard as speed, grade, and rail condition permit, and then graduating off as speed decreases; by moving the handle gradually to the left, the locomotive will finally be brought to rest with only enough brake cylinder pressure retained to prevent it from moving.

(3) Because the retarding effect of the brake cylinder pressure is greater at low than at high speeds, a heavy application at low speeds will result in an abrupt stop.

e. Release.

(1) To fully release the brakes, move the brake valve handle to release position, the handle will be left in this position at all times when not in use.

(2) To graduate or partially release the brakes move the handle toward the left. The brake cylinder pressure will immediately reduce an amount corresponding to the handle movement.

d. Emergency. Should it become imperative to stop in the shortest possible time and distance, to save life or avoid accident, move the handle quickly from whatever position it may be in, to full Service position and leave it there until the locomotive stops and the danger is past.

16. **Torque Converter Retarding Brake**

The torque converter retarding brake (31) controls the spinning action or drag of the converter. The locomotive must always be completely stopped and the throttle in the idle position when this brake is applied as excessive speed will cause undue wear on the lining.

17. **Emergency Hand Brake**

The emergency hand brake (28) is set by pulling back toward the operator's position.

18. **Deadman Pedal**

a. The deadman foot pedal (32) is a safety device which must be depressed at all times during operation of the locomotive. It safeguards against the incapacitation of the operator.

b. A release of the deadman pedal automatically applies the brakes and brings the engine to an idling speed.

19. **Engine Start Button**

The engine start pushbutton (10) closes the engine starting contactors which connect the starting motor to the battery while cranking the engine.

20. **Sanding Valve**

a. The sanding valve (25) is mounted on the brake stand and is connected to the air line. It controls a sander mechanism which feeds sand on the tracks through the forward and reverse sanding tubes.

b. The valve has a manually operated handle which can be moved in three (3) positions. When the handle is pushed to the forward (front) position, sand is delivered to the front wheels. When the handle is pulled to the reverse (rear) position during reverse operation, sand is delivered to the

rear wheels. When the handle is returned to the center OFF position, the sand supply is cut off.

21. Bell Ringer Valve

The bell ringer valve (29) is connected to the air-line and controls the air pressure which rings the bell mounted on the front of the cab.

22. Horn Pull-Cord

The horn pull-cord (24) sounds the warning horn mounted on top of the cab. The valve is closed at all times except when the cord is pulled; it then permits passage of main reservoir air to the horn.

23. Torque Converter Oil Temperature and Pressure Gages

a. Temperature Gage.
   (1) The highest temperature in the system is that of the oil leaving the converter. The oil temperature gage (13) registers the temperature of the oil at the converter outlet.
   (2) The normal operating temperature of the oil is 170' F. to 220' F. The maximum temperature of 250o F. must not be exceeded.

b. Pressure Gage. The oil pressure gage (15) measures the charging pressure. At full throttle operation a 60 psi minimum charging pressure must be maintained. A maximum pressure of 100 psi must not be exceeded.

24. Engine Temperature and Oil Pressure Gages

a. Temperature Gage. The temperature gage (11) registers the temperature of the water in the cooling system. The water temperature should range between 165^0 and 185^0 F. in normal operation.

b. Oil Pressure Gage. The oil pressure gage (16) indicates the pressure of the lubricating oil. The oil pressure should not fall below 25 pounds, at operating speed or 5 pounds at engine idle.

25. Air Pressure Gage and Warning Light

The air pressure gage (19) registers main reservoir air pressure. Never operate the locomotive until the pointer registers 50 to 55 psi on the gauge and low pressure warning light (21) goes out.

26. Battery Ammeter

The battery ammeter (14) indicating the rate of charge or discharge of the battery, must be observed frequently. With the engine running, it should indicate zero, or varying charge reading, depending on the condition of the battery. Excessive continuous charge may be due to a poor condition of the battery or voltage regulator, and must be reported on the daily inspection worksheet. Continuous discharge must also be reported to avoid running down the battery.

27. Emergency Engine Stop

The emergency engine shutdown (3) may be pulled out to stop the engine by mechanical connection to the valve shaft. It is intended only for emergency shutdown of the engine if there is no air pressure.

28. Fuel Shutoff Pull Rings

The fuel shutoff valve in the fuel line is operated by pull-rings for quickly cutting off the flow of fuel oil in case of fire, collision, or other emergency. Two rings are provided, one on each side of the locomotive mounted on the outside of the cab. To open the fuel line after tripping this valve, manually reset the valves. It may be necessary to bleed air from the fuel line.

29. Lighting and Heating Switches

These individual switches mounted on the instrument panel are identified by name plates
   b. Instrument panel light (17).
   c. Headlight (18).
   d. Rear light (9).
   e. Cab light (20).
   f. Step light (22).
   g. Cab heater switch (23).

Section III. OPERATING INSTRUCTIONS

30. Preparatory to Starting Engine

a. Before starting the engine, check to see that no tools, nuts, bolts, or other materials are laying around the engine compartment or cab where they could possibly get caught or fall into the working mechanism.
b. Check that the hand brake is set in the "locked" position and that either or both the

reversing lever and speed changing lever are in neutral position.

31. Starting the Engine

a. Pull the hand throttle back until it drops in engine "idle" position.
b. Turn the master switch to ON position.
c. Press engine start button until engine fires. Do not operate cranking motor more than 30 seconds at a time, to avoid overheating motor.

Caution: If engine fails to start, DO NOT repress button until cranking motor stops rotating. Serious damage to the cranking motor may result if the above rule is not followed.

d. If engine does not start after four periods of cranking, refer to operating difficulties (pars. 36-40). Should the outside temperature be 40'F. or below, use the ether starting aid as explained in paragraph 32.
e. Immediately after starting, observe the oil pressure on the gauge. If no pressure is shown after 10 to 15 seconds, stop engine and check the lubricating system. See that the battery is being charged as indicated by the battery ammeter.
f. Run engine at part throttle and no load for four or five minutes to allow the engine to warm up.

32. Cold Weather Starting (fig. 2)

a. General. The ether starting aid provides a means of starting the engine when the ambient temperatures are as law as -10° F. The discharger is used to inject ether into the inlet manifold in order to assist ignition of the fuel.
b. Operation.
(1) Unscrew the cap from the body (12).
(2) Place capsule in the body.
(3) With piercing shaft in "raised position" (all the way out), screw the cap to the body securely.
(4) Push piercing shaft down until it bottoms. This will break the capsule and fill the container with starting fluid vapor.
(5) Move the engine throttle to the full-fuel position.
(6) Engage the starter and simultaneously pull back the pump plunger all the way and then push the plunger in slowly, thus forcing the starting fluid through the nozzle and into the air intake. Continue to push the plunger in slowly until the engine starts. If the plunger is not all the way in when the engine starts, push it in very slowly until it locks in the IN position.
(7) Unscrew the cap from the body and remove the used capsule. Do not leave the empty capsule in the container.
(8) When not in use, the piercing shaft must be all the way down.

Caution: Never discharge a capsule into the manifold of a hot engine. Use the capsule specified for the starting aid. Do not use a substitute.

33. Stopping Engine

a. Normal Stop.
(1) Set throttle at about half speed and let engine run without load for about 2 minutes. This will allow the coolant to normalize before shutting down.
(2) Move throttle forward to the "no fuel" position to stop the engine.
(3) Turn the master control switch to the OFF position.
b. Emergency Stop.
(1) To stop the engine in an emergency due to low air pressure, pull out the emergency engine stop (3, fig. 2) located on the instrument panel support.
(2) In the event of collision, fire, or other emergency, pull either of the "fuel shutoff" rings located outside on each side of the cab.

34. Locomotive Operation

a. *Pre-Operation Check.*

(1) See that the oil pressure gage registers at least 20-25 pounds at operating speed or 5 pounds at engine idle.
(2) The engine temperature should register between 165°-185° F. at operating speed.
(3) Air pressure gage must read 50-55 psi (warning light goes out).
(4) Test horn, bell ringer, and windshield wiper.

b. Traveling.

(1) Release the emergency brake and depress the deadman's pedal.

(2) Move the reverse lever to "forward" or "reverse" position, depending upon the direction of motion desired.

(3) Set the speed changing lever to the desired operating speed.

(4) Open the throttle to the desired engine speed. When hauling heavy loads open to full throttle so that engine will operate at it's governed speed, as operating the engine at less than governed speed heats the oil in the torque converter unduly.

(5) While the transmission has four (4) speeds, use only the one that gives the best locomotive performance with the least rise in temperature in the converter. Watch the temperature gage and from it determine the engine speed giving the most satisfactory performance. The temperature of the torque converter must not exceed 250° F. Second speed normally gives the best performance for short runs and sharp curves.

c. Wheel Slipping.

(1) If wheel slipping occurs, move the throttle toward the idle position until the slipping stops.

(2) Apply sand sparingly to the rails and advance the throttle. Never apply sand while the wheels are slipping as this could cause a broken travel gear or a flat wheel.

d. Stopping Locomotive.

(1) Normal stop.

(a) Reduce engine to idle by pushing throttle to "engine idle" position.

(b) (b) *Apply* the air brakes by moving brake valve handle to the right. The amount of brake application depends upon the distance the handle is advanced toward full application position. Release the deadman pedal after brakes have been applied.

(c) Shift either reverse lever and/or speed changing lever to "neutral" position.

(d) *Apply* emergency hand brake.

(2) Emergency stop. Apply sand to the rails and move brake valve handle to "full service" position.

e. Changing Speed or Direction of Motion.

(1) To change speed or direction of motion, stop locomotive as described in *d (1)* above. In extreme cases on severe grades when locomotive is exerting maximum hauling effort, shift either the reverse lever or speed changing lever to neutral position just before locomotive comes to a rest.

(2) When gears have been brought to neutral, apply retarding brake to stop spinning action of the converter. (The locomotive must always be completely stopped and the throttle in idle position when this brake is applied as excessive speed will cause undue wear on the linings. The correct idling speed of the engine is from 400 to 500 rpm and must never be exceeded in order to keep converter drag to a minimum.) Move the speed changing or reversing lever towards the position desired and if shift is not completed on initial contact, release the retarding brake slightly, allowing the converter to drag the gears into proper shifting position. Reapply the brake and complete shift.

35. **Inspection Check During Operation**

Check gages frequently. Investigate and report any deviations from normal.

a. Oil Pressure Engine.
5 pounds at idling speed.
25 pounds at operating speed.

b. Temperature Engine Coolant.
Minimum-165° F.
Maximum-185^0 F.

c. Oil Temperature Torque Converter.
Normal-170'F. to 220' F.
Maximum-250' F.

d. Oil Pressure Torque Converter.
Minimum-60 psi.
Maximum-100 psi.

e. Air Pressure.
Minimum-50 psi.
Maximum-115 psi.

f. Battery Ammeter.
Zero or varying charge reading.

Section IV. OPERATING DIFFICULTIES

36. Engine Fails to Turn When Depressing Start Button

a. Master switch open
b. Low or dead battery.
c. Battery terminals loose or corroded
d. Defective starter switch.

37. Engine Turns but Will Not Fire or Continue to Run After Releasing Start Button

a. Fuel tank empty.
b. Fuel pump not functioning properly.
c. Emergency fuel cutoff valve closed.

33. Falling Off of Power

A decrease in engine power should become manifest to the operator by failure to obtain the usual speed in response to the throttle setting or by character of engine noise or by meter indication.

This is generally due to engine condition and must be reported on the "Operations Report" portion of DD Form 862.

39. Engine Stops

a. Fuel tank empty.
b. Low lubricating oil pressure, causing engine shut-down device to operate.
c. Emergency fuel "shutoff" valve has been tripped.
d. Lubricating oil low pressure shutdown device may be tripped.

40. Compressor Fails to Pump Up Air

If compressor does not operate properly, check angle and drain cocks, piping, air hose and other points for leakage.

APPENDIX

REPAIR PARTS, SPECIAL TOOL LIST, AND BASIC ISSUE LIST ITEMS

1. This appendix lists the components and accessories initially issued with the equipment and the repair parts and assemblies which comprise the basic issue list of items. It is to be used for identification, storage, issue, requisitioning, and as an aid to procurement.

2. The items shown in this basic issue list are arranged alphabetically by item name, and when applicable, are arranged in accordance with the assembly, subassembly, and parts relationship.

3. The following columnar headings are used herein

a. Federal or Technical Service Stock Number. This column lists the Federal stock number, which consists of a 7-digit Federal item identification number preceded by a 4-digit Federal supply classification number, or the technical service stock number. When an item is the supply responsibility of another service, the appropriate service abbreviation will be shown with the stock number, i.e., (ENG), (ORD), etc.

b. Description. This column lists the Federal item name and modifiers (usually abbreviated) that describe the item.

c. Unit of Issue. This column lists the standard or basic quantity in which the item is issued. *d. Expendability.* The symbol NX will be shown in this column for items that are determined as being nonexpendable. When there is nothing shown for an item, it will be considered as being expendable.

e. Quantity Authorized. This column lists the quantity authorized for stockage for 1st echelon maintenance.

f. Figure Number. This column lists the figure number of the item illustrated.

4. The following abbreviations and symbols are used

a. Abbreviations.

(1) Manufacturers.

BUSSMANN MFG	Bussmann Mfg Co.
DETROIT	Detroit Diesel Engine Div. of General Motors Corp.
FATE ROOT HEATH.	The Fate-Root Heath Co.
GEN ELEC	General Electric Co.
STANDARD OIL	Standard Oil Co. of California.
WEST ELEC	Westinghouse Electric Co.

(2) *General.*

amp	ampere (s)
cp	candle power
deg	degree(s)
dia	diameter
ea	each
h	height, high
ips-	iron pipe size
lg	length (long)
min	minimum
nom	nominal
v	volt(s)
w	wide, width
w/	with
wt	weight

b. Symbols.

NX	nonexpendable

5. Replacement requisitioning for items indicated by other services' stock numbers will be accomplished in accordance with provisions of AR 700-17.

6. Cross-references are included with this appendix to facilitate the identification by part or stock number of the items listed.

a. Part number to stock number cross-reference lists manufacturer's part or drawing numbers cross-referenced to Federal or technical service stock numbers.

b. Stock number to part number cross-reference lists the Federal or technical service stock numbers cross-referenced to manufacturer's part or drawing numbers.

7. Service parts apply to Diesel Mechanical Locomotive of the designated model, unless otherwise noted.

8. Errors or omissions noted in this appendix should be promptly reported to the Commander, U. S. Army Transportation Supply and Maintenance Command, P. 0. Box 209, Main Office, St. Louis 3, Mo.

Federal or technical service stock No. (1)	Description (2)	Unit of issue (3)	Expendability (4)	Quantity authorized (5)	Illustrations Figure No. (6)
	MAJOR ITEM				
2210-262-1366	LOCOMOTIVE, DIESEL MECHANICAL: 56½ in. gage, 10 ton, 0-4-0, Fate-Root-Heath (Plymouth) Model DDT.	ea	NX		1
	REPAIR PARTS				
3030-293-4610	BELT, V: generator drive, plain type, rubberized fabric cords, 1¼ in. w, 36 deg angle, 34½ in. outside circ, heat resistant.	ea		1	
2990-697-0863	CAPSULE, ENGINE STARTING	ea		24	
5920-280-4467 (ENG)	FUSE, CARTRIDGE: 20 amp, 32v, normal instantaneous, ferrule terminal, glass body, one time, 1¼ in. lg, ¼ in. dia.	ea		3	
6240-155-8726	LAMP, INCANDESCENT: cab dome light & under hood, 24-28v, 15 cp, double contact bayonet candelabra base, S8 bulb, clear.	ea		1	
6240-155-7795	LAMP, INCANDESCENT: inspection light kit, 28v, 15 cp, double contact bayonet candelabra base, S8 bulb, clear.	ea		1	
6240-019-0878	LAMP, INCANDESCENT: instrument panel & ladder, 24-28v, 0.263 amp, 3 cp, double contact bayonet candelabra base, G6 bulb, clear.	ea		2	
6240-155-8714	LAMP, INCANDESCENT: low air pressure warning signal kit, 28v, 0.17 amp, miniature bayonet base, T3-¼ bulb, clear.	ea		1	
L-79-00-0116	LAMP, INCANDESCENT: sealed beam, headlight, 24v	ea		1	
	TOOLS AND ACCESSORIES				
5120-224-1372 (ORD)	BAR, PINCH: ¾ in. stock, 26 in. lg	ea		1	
5120-236-3272 (ORD)	CHISEL, COLD, HAND: ¾ in. w cut, 7 in. lg	ea		1	
4210-223-9897 (ENG)	EXTINGUISHER, FIRE, VAPORIZING LIQUID: charged, carbon tetrachloride, hand type, discharged by pumping, brass, ¼ gal, w/ wall bracket.	ea		1	
4930-223-3391	GREASE GUN, HAND: lever operated, spring primed, 15 oz capacity, 6 in. extension, hydraulic type coupler, w/loader fitting.	ea		1	
5120-187-1028 (ORD)	HAMMER, HAND: machinist ball peen, 2 lb nom head wt	ea		1	
4930-169-8274	OILER, HAND: 32 oz capacity, pump, steel, bent 15 in. spout, copper plated.	ea		1	
5340-285-6530	PADLOCK: pin tumbler mechanism, individually keyed, laminated steel or iron case, 1½ in. w, 2⅜ in. h, steel shackle, ¼ in. dia, ⅞ in. clearance, zinc finished.	ea		1	
5120-268-3583 (ORD)	PLIERS: combination, slip joint, 8 in.	ea		1	
5120-240-6083 (ORD)	PUNCH, DRIVE PIN: ¼ in. point dia, 4 in. lg	ea		1	
5120-278-1273 (ORD)	SCREWDRIVER, FLAT TIP: close quarter, plastic handle, $\frac{5}{16}$ in. w/tip, 1¾ in. lg blade.	ea		1	
5120-227-7362 (ORD)	SCREWDRIVER, FLAT TIP: w/wrench grip, plastic handle, flared tip, ⅜ in. w tip, 12 in. lg blade.	ea		1	

Federal or technical service stock No. (1)	Description (2)	Unit of issue (3)	Expendability (4)	Quantity authorized (5)	Illustrations Figure No. (6)
	TOOLS AND ACCESSORIES—Continued				
5120-240-5334 (ORD)	WRENCH, MONKEY: 18 in. nom lg, 0 to 3 in. min jaw opening	ea		1	
5120-240-5328 (ORD)	WRENCH, OPEN END, ADJUSTABLE: single head, 8 in. nom lg, 0 to 0.947 in. min jaw opening capacity.	ea		1	
5120-240-5331 (ORD)	WRENCH, PIPE: adjustable jaw type, 10 in. nom lg, ¼ in. to 1 in. ips.	ea		1	
5120-317-8068 (ORD)	WRENCH SET, OPEN END, FIXED: double head, 15 deg angle, w/ leatherette or canvas roll, consisting of the following sizes: ⅜ in. x 7/16 in. opening, 5 in. lg 7/16 in. x ½ in. opening, 5 in. lg ½ in. x 9/16 in. opening, 5½ in. lg 9/16 in. x ⅝ in. opening, 6 in. lg ⅝ in. x 11/16 in. opening, 7 in. lg ⅝ in. x ¾ in. opening, 7¾ in. lg ¾ in. x ⅞ in. opening, 8⅝ in. lg ⅞ in. x 1⅛ in. opening, 10 in. lg 1 1/16 in. x 1 1/16 in. opening, 10½ in. lg 1 in. x 1⅛ in. opening, 11½ in. lg	set		1	
	PUBLICATIONS				
	Technical Manual 55-1267-10 Operator's Manual for Locomotive, Diesel Mechanical, 56½ in. gage, 10 ton, 0-4-0, Fate-Root-Heath (Plymouth) Model DDT.	ea		2	
	Lubrication Order 55-1267 Locomotive Diesel Mechanical, 56½ in. gage, 10 ton, 0-4-0, Fate-Root-Heath (Plymouth) Model DDT.	ea		2	
	Technical Manual 55-4040 Engine, diesel, industrial, Detroit Diesel Model 71 series.	ea		2	
	Technical Manual 55-4040-1, General Motors diesel, series 71, maintenance and overhaul manual for 3, 4, and 6 cylinder industrial units, Form 6SE-61.	ea		2	
	Technical Manual 55-2035 Torque converters applied to General Motors diesel engines, General Motors Instruction Manual, Form 6SE-57.	ea		2	

Part
Number To Stock Number Cross-Reference

Part No.	Manufacturer	Technical service or Federal stock No.
CHEVRON CAPSULE 7CC	STANDARD OIL	2990-697-0863
PTA 13-25A	FATE ROOT HEATH	5920-280-4467
SFE20	BUSSMANN MFG	5920-280-4467
VP555	FATE ROOT HEATH	6240-155-8726
1252	WEST ELEC	6240-019-0878
1692	WEST ELEC	6240-155-8726
306	GEN ELEC	6240-155-7795
313	GEN ELEC	6240-155-8714
4800	WEST ELEC	L-79-00-0116
5187223	DETROIT	3030-293-4610

Stock Number to Part Number Cross-Reference		
Technical service or Federal stock No.	**Manufacturer**	**Part No.**
L-79-00-0116	WEST ELEC	4800
2990-697-0863	STANDARD OIL	CHEVRON CAPSULE 7CC
3030-293-4610	DETROIT	5187223
5920-280-4467	FATE ROOT HEATH	PTA13-25A
5920-280-4467	BUSSMANN MFG*	SFE20
6240-019-0878	WEST ELEC	1252
6240-155-7795	GEN ELEC	306
6240-155-8714	GEN ELEC	313
6240-155-8726	FATE ROOT HEATH	VP555
6240-155-8726	WEST ELEC*	1692
* **Prime manufacturers.**		

[AG 453.3 (28 Feb 57)]

By Order of *Wilber M. Brucker,* Secretary of the Army

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NG: None.

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For explanation of abbreviations used, see SR 320-50-1.

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